

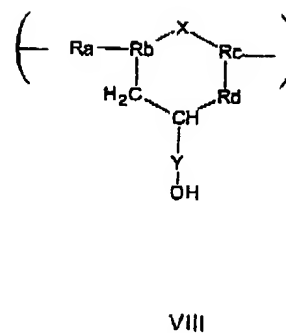
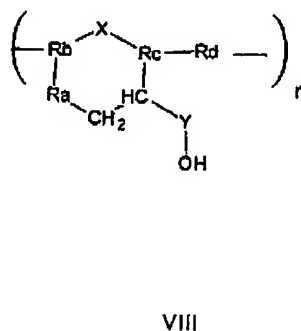
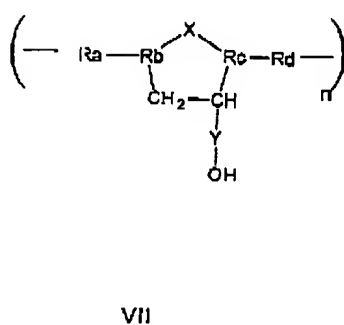
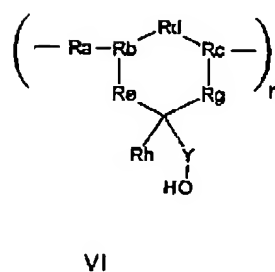
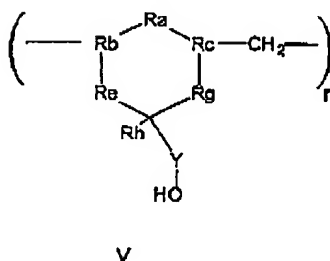
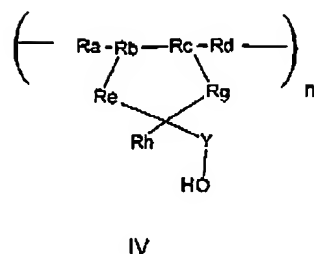
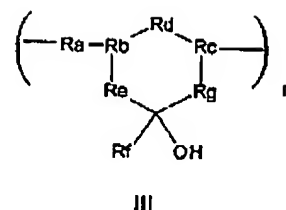
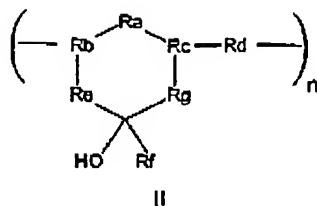
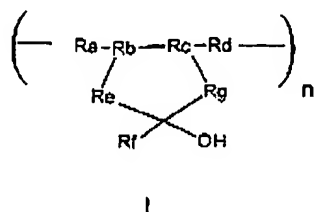
Serial No.: 10/658,840
Filed: September 9, 2003

Complete set of claims

1 (canceled).

2 (currently amended). A composition comprising a photoacid generator and a fluorinated polymer, where the fluorinated polymer is a reaction product of polymer containing an aliphatic monocyclic fluoroalcohol unit with at least one compound capable of functionalizing the fluoroalcohol unit with an alkoxycarbonylalkyl group of structure $-(CR_3R_4)_p(CO)OR_5$, where R_3 and R_4 are independently H, F, (C_1-C_8) alkyl, (C_1-C_8) fluoroalkyl, cycloalkyl, cyclofluoroalkyl, $(CR_3R_4)_p(CO)OR_5$, R_3 and R_4 may combine to form an alkylspirocyclic or a fluoroalkylspirocyclic group, R_5 is H or an acid labile group, and $p=1-4$, ~~further where the fluorinated polymer in the composition has a monocyclic structure, and~~ further where the polymer containing the monocyclic fluoroalcohol unit is selected from at least one of structures I to VIII,

Serial No.: 10/658,840
 Filed: September 9, 2003



where Rf is a fluoroalkyl group (C₁-C₈),

Ra, Rb, Rc, Re, Rg and Rh are independently alkyl and fluoroalkyl, and Ra-Re and Rg can independently be substituted with alkyl, fluoroalkyl, spirofluoroalkyl or spiroalkyl substituent, where at least one of Ra, Rb, Rc and Rd is a fluoroalkyl group,

Y is independently alkyl or fluoroalkyl spacer group (C₁-C₉), and

Serial No.: 10/658,840
Filed: September 9, 2003

X is independently CF₂ or O.

3 (canceled).

4 (canceled).

5 (canceled).

6 (canceled).

7 (canceled).

8 (original). The composition of claim 2, where the alkyloxycarbonylalkyl group is selected from t-butyloxycarbonylmethyl, methyl-adamantylloxycarbonylmethyl, t-amylloxycarbonylmethyl, methyl-norbornylloxycarbonylmethyl, t-butyloxycarbonylpropyl and t-butyloxycarbonyldifluorobutyl.

9 (previously amended). The composition of claim 2, where the acid labile group is selected from secondary and tertiary alkyls, acetals and ketals, trimethylsilyl, β -trimethylsilyl substituted alkyls, tetrahydrofuranyl, tetrahydropyranyl, substituted or unsubstituted methoxymethoxycarbonyl, and β -trialkylsilylalkyl.

10 (previously amended). The composition of claim 2, where the fluoroalcohol unit is further functionalized with a compound containing nonacid labile groups and/or acid labile groups.

Serial No.: 10/658,840
Filed: September 9, 2003

11 (previously amended). The composition of claim 2, where the polymer containing an aliphatic monocyclic fluoroalcohol unit is selected from poly(1,1,2,3,3-pentafluoro-4-trifluoromethyl-4-hydroxy-1,6-heptadiene and poly(1,1,2,3,3-pentafluoro-4-trifluoroalkyl-4-hydroxy-1,6-heptadiene).

12 (previously amended). The composition of claim 2, where the composition further comprises a polymer with multicyclic units in the polymer backbone.

13 (previously amended). The composition of claim 12, where the polymer with the multicyclic unit is poly(1,1,2,3,3-pentafluoro-4-trifluoromethyl-4-hydroxy-1,6-heptadiene) protected with an alkyloxycarbonylalkyl group.

14 (previously amended). The composition of claim 2, where the composition further comprises a dissolution inhibitor.

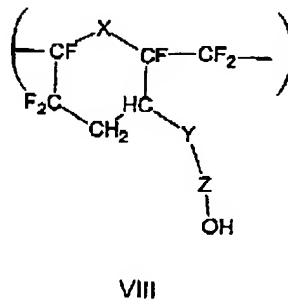
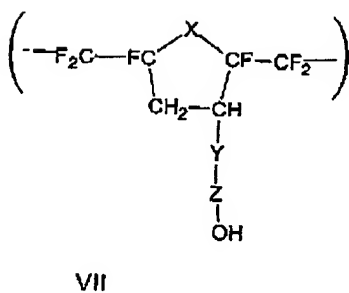
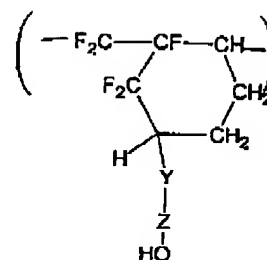
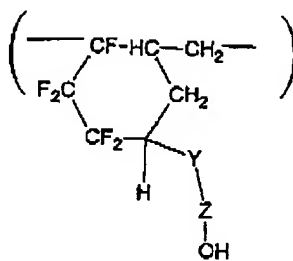
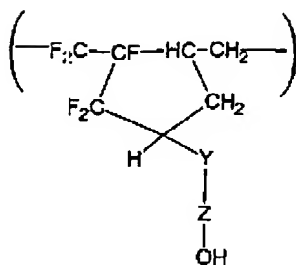
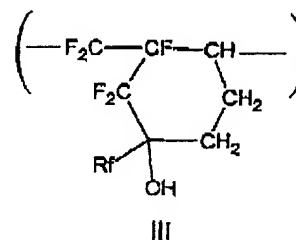
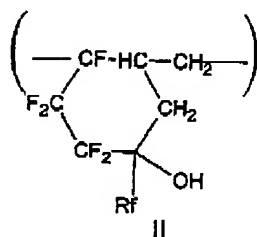
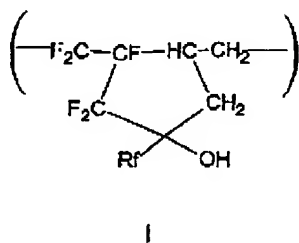
15 (previously amended). The composition of claim 2, where the composition further comprises a base or a photobase.

16 (previously amended). The composition of claim 2, further comprising secondary polymers.

17 (previously amended). The composition of claim 2, where the photoacid generator is selected from diazonium salts, iodonium salts, sulfonium salts, triazines, oxazoles, oxadiazoles, thiazoles, substituted 2-pyrones, phenolic sulfonic esters and mixtures thereof.

Serial No.: 10/658,840
 Filed: September 9, 2003

18 (previously presented). The composition according to claim 2, where the polymer containing an aliphatic monocyclic fluoroalcohol unit is selected from at least one of the structures,



Serial No.: 10/658,840
Filed: September 9, 2003

where, Rf is a fluoroalkyl group (C₁-C₈),

Z is independently CF₂, C(C_nF_{2n+1})₂, C(C_nF_{2n+1})(C_nH_{2n+1}), n=1-12,

Y is independently alkyl or fluoroalkyl spacer group (C₁-C₈), and

X is independently CF₂ or O.